

## **REMARKS**

### **I. Claim 15 Is Not a Substantial Duplicate of Claim 1 Under 37 C.F.R. § 1.75**

The Examiner has objected to Claim 15 as being a substantial duplicate of Claim 1. Office Action, page 2. Applicant respectfully disagrees, and submits that Claims 1 and 15 are not duplicative. Claim 1 provides the element of “a fixed image, wherein said fixed image is formed in said filled polymeric material, and wherein said fixed image has a fixed image optical density value within 1.5 of a corresponding transfer image optical density value.” As the language indicates, this claim scope relates to a *relative* optical density value; namely, a fixed image with an optical density value that is within 1.5 of the optical density value of a transfer image used to create the fixed image (*e.g.*, via heat transfer printing). One primary purpose (and advance over the prior art) of the presently claimed invention is to provide novel compositions and methods involving created fixed images in filled polymeric articles that are more faithful to the original transfer images than those achieved by the less effective methods of the prior art.

Claim 15, in contrast, provides the element of “a fixed image, wherein said fixed image is formed in said filled polymeric material, and wherein said fixed image has a fixed image optical density value of at least 0.7.” Claim 15 relates to an *absolute* optical density value; namely, a fixed image with an optical density value of at least 0.7, irrespective of the optical density value of any corresponding transfer image. Thus, Claims 1 and 15 claim two distinct aspects of the presently claimed invention, which are properly the subject of two distinct claims. While the subject matter may be overlapping in some instances, it need not be. As such, Applicant respectfully submits that Claims 1 and 15 are not duplicative in content, and requests that the objection be withdrawn.

### **II. The Claims Are Not Indefinite Under 35 U.S.C. § 112**

**A.** The Examiner has rejected Claim 1 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner asserts that “[i]t is not clear how a ‘corresponding transfer image,’ as disclosed in the specification, is ‘a dye in the transfer medium that could be used to form a fixed image.’ It is unclear if a dye or a transfer medium is actually present in claim 1.” Office Action, pages 2-3. Applicant respectfully disagrees, and

submits that support for the claim is provided in the Definitions section of the specification, at page 13, as follows:

As used herein, the term “corresponding transfer image” refers to the dye in the transfer medium that could be used (e.g. in heat transfer printing) to form a fixed image in a solid surface such a filled polymeric material. Generally, the corresponding transfer image when compared to a fixed image, is not the actual transfer image used to transfer the image into the solid surface (since the transfer image is “spent”), but instead is made by the same method as the actual transfer image used to form the fixed image (e.g. the same digital picture is printed out onto the same type of paper using the same printer, etc). The digital picture shown in Figure 1C is considered the corresponding transfer image of the digital picture of the fixed image shown in Figure 1B.

As the above definition indicates, a “corresponding transfer image” comprises an image comprised of dye that is contained in (e.g., printed on, affixed to, embedded in, etc.) a transfer medium (e.g., a sheet of paper), and may be used to fix a reproduction of the image within a filled polymeric material. Thus, the “corresponding transfer image” in Claim 1 comprises both a dye and a transfer medium. An example of a “corresponding transfer image” is a dye-based image that is printed on a sheet of paper, and can be used to fix a dye-based image within a filled polymeric article by placing the paper in contact with the filled polymeric article and applying a combination of heat and pressure. The “corresponding transfer image” is the reference by which the relative optical density value of the fixed image in Claim 1 is measured. Applicant respectfully submits that the specification provides sufficient clarity, and requests that the rejection be withdrawn.

**B.** The Examiner has rejected Claims 1-30 under 35 U.S.C. § 112, second paragraph, on the grounds that “[t]he term ‘composition’ in the preamble of claims 1-30 is used by the claim to mean ‘composition’ while the accepted meaning is ‘lamine.’” Office Action, page 3. Applicant disagrees, and respectfully submits that the Examiner mischaracterizes the claimed invention. However, in the interest of furthering prosecution of the instant application, while not acquiescing to the Examiner’s arguments, Applicants have amended Claims 1-30 to substitute the term “article of manufacture” for the term “composition.” Applicants reserve the right to prosecute the original claims (or similar claims) in the future.

C. The Examiner states that, “regarding claims 1-29, it is not clear as to if CORIAN®, GIBALTAR®, FOUNTAINHEAD®, AVONITE®, or CERATA®, is added in addition to a filled polymeric material, or that it actually is the filled polymeric material,” and advises replacement of trademarked terms with generic descriptions. The Examiner also asserts that “[t]he term ‘filled’ in itself is unclear as it is an indefinite term and not defined in the specification.” Office Action, page 3. Applicant respectfully disagrees with both assertions, and submits that support for the claims is provided in the Definitions section of the specification, at page 12, as follows:

As used herein, the term “filled polymeric article” refers to any material containing at least 5 percent of a polymer (e.g. polyacrylic or polyester), and at least 10 percent of an inorganic filler (e.g. alumina trihydrate). Examples of filled polymeric articles include, but are not limited to, products marketed under the tradenames CORIAN, FOUNTAINHEAD, and AVONITE.

Applicant believes that this definition makes clear that the materials cited in the claims by reference to their trademarked names actually constitute the filled polymeric material, and are not an additive material. Furthermore, Applicant submits that the term “filled” is not indefinite in view of the definition of “filled polymeric article,” which describes a material with “an inorganic filler.” In addition, Applicant submits that a skilled artisan in the field of solid surface materials would readily understand the meaning of the term “filled” as used in this application, based on the definition and other disclosure provided in the specification. Finally, Applicant submits that the previous amendment, in which the claims were amended to add the phrase “brand filled polymeric material” after each appearance of a trademarked term (e.g., “said filled polymeric material comprises CORIAN brand filled polymeric material”), sufficiently clarifies the fact that the materials cited in the claims by reference to their trademarked names actually constitute the filled polymeric material of the claims. Thus, Applicant respectfully requests that this rejection be withdrawn.

### **III. Claims 15 and 24-28 Are Not Anticipated Under 35 U.S.C. § 102(e)**

The Examiner has rejected Claims 15 and 24-28 as allegedly anticipated by U.S. Patent No. 6,409,870 to Duffney. Office Action, page 4. The Federal Circuit has stated the relevant analysis for anticipation as follows:

A claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference.<sup>1</sup>

Applicant respectfully submits that the reference cited by the Examiner does not teach each element of the Claims. In particular, Duffney does not teach filled polymeric materials with “fixed images.” The specification defines a fixed image, at page 13, as follows:

As used herein, the terms “fixed image” and “fixed image formed” in a material, refer to dye or ink that has been transferred into a solid surface (e.g. heat transferred into a filled polymeric material) and that changes the visual appearance of the solid surface (e.g. making it darker, or lighter, changes the color, adds a pattern or representation of an image). Also, a fixed image is an image that is not easily removed from the solid surface (e.g. cannot be removed with soap and water, and is resistant to extensive rubbing with steel wool or like material). Examples of digital photographs of fixed images are shown in Figure 1 and Figure 2. (emphasis added)

The Examiner asserts that “the optical density value of [Duffney’s] fixed image is inherent since the same materials are taught.” Office Action, page 4. Applicant respectfully, but strongly, disagrees.

First, Applicant notes that Duffney’s only teaching of any composition resembling the filled polymeric articles of the presently claimed invention consists of the mere use of the trademarked terms CORIAN®, FOUNTAINHEAD®, SURRELL®, and AVONITE® as a suggested material for the decorative molding. U.S. Patent No. 6,409,870, col. 2, l. 46. Second, Duffney contains no teaching, express or implied, of the molding material itself containing a fixed image (as defined in the presently claimed invention), nor of color as an element of the molding material itself, nor of novel optical density characteristics as an element of the molding material itself (indeed, there is no mention of optical density as an element of the invention at all), nor any suggestion that the invention will alter the optical density value of the molding material in any way.

The alleged “fixed image” asserted by the Examiner in Duffney is a three-dimensional pattern that is cut (“routed or lazered”) into the surface of the molding material. U.S. Patent No. 6,409,870, col. 2, ll. 24-25. The presently claimed invention, by contrast, involves a dye or ink image that is fixed (e.g., by heat transfer printing) within a filled polymeric article in a manner that allows the filled polymeric article to achieve novel optical density characteristics. Thus,

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<sup>1</sup> *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

even if Applicant agreed that an optical density value would be inherent if the same materials were taught (which Applicant does not), there is no teaching of the same materials. Duffney transfers nothing into any solid surface material (nor could Duffney's methods accomplish such). Duffney's unelaborated mention of the trademarked terms CORIAN®, FOUNTAINHEAD®, SURRELL®, and AVONITE® has no teaching of a filled polymeric article (such as stock CORIAN®, FOUNTAINHEAD®, SURRELL®, or AVONITE® brand solid surface material) that contains an ink or dye image fixed within the material. Applicant therefore submits that Duffney does not teach the element of a fixed image, and requests that the rejection be withdrawn.

#### **IV. The Claims Are Not Obvious Under 35 U.S.C. § 103(a)**

The Examiner has rejected Claims 1-8, 14, 16-23, and 29-30 as allegedly being unpatentable over Duffney in view of U.S. Patent No. 6,203,911 to Weberg *et al.* and U.S. Patent No. 5,747,154 to Minghetti *et al.* Office Action, page 4. Applicants respectfully disagree. Under § 2143 of the Manual of Patent Examining Procedure (M.P.E.P.), there are three criteria that must be met to provide a *prima facie* showing of obviousness. The first is that the prior art must teach or suggest all of the claim limitations. The second is a suggestion or motivation in the references or the knowledge generally available to combine the reference teachings. The third is a reasonable expectation of success should the combination be carried out. Failure to establish even one of these requirements means that the Examiner has failed to establish a *prima facie* case of obviousness. Applicant respectfully submits that the Examiner has failed to set forth a *prima facie* case of obviousness because these requirements have not been met.

To establish a *prima facie* case of obviousness, the cited references must contain a teaching or suggestion of all of the claim limitations of the present invention. M.P.E.P. § 2143. Applicant respectfully submits that the Examiner could not show a teaching or suggestion of all of the claim limitations, since every claim of the presently claimed invention requires a filled polymeric article containing a fixed image with certain optical density properties fixed therein.

As explained above, the fixed image of the presently claimed invention differs fundamentally from both the carved, three-dimensional patterns described by Duffney, and from the filler-based coloration techniques taught by Weberg *et al.* and Minghetti *et al.* None of the cited art, alone or in combination, teaches or suggests a fixed image, let alone a fixed image with

the optical density characteristics of the presently claimed invention. Furthermore, Applicant respectfully submits that, as explained above, the novel optical density characteristics of the presently claimed invention are not an inherent property of the materials, but rather are achieved, for example, via novel methods of the presently claimed invention (*e.g.*, the fixation of images with novel optical density characteristics within filled polymeric materials). Without the fixed images of the presently claimed invention, the novel optical density characteristics of the presently claimed invention cannot currently be achieved in filled polymeric articles. Thus, the mere disclosure of a filled polymeric article (even one that incorporates the pigment-based decorative fillers of Weberg *et al.* and Minghetti *et al.*) is not the same as disclosing a filled polymeric article with an image having novel optical density characteristics fixed therein.

The prior art describes methods for carving three-dimensional grooves into solid surface materials. The prior art describes methods of applying color onto (*e.g.*, painting) solid surface material. The prior art provides solid surface materials that are initially generated with color throughout their material so that when they are solidified, a uniformly colored solid surface material is produced. However, the prior art does not teach or suggest methods for transferring images into preformed solid surface materials or composition comprising solid surface materials having images transferred into (as opposed to onto) their material with the bright, bold colors of the present invention, such that the present claim limitations are met. Solid surface materials are notoriously difficult to place images into. The very properties that make use of solid surface desirable (*e.g.*, durability, resistance to staining, ability to sand off scratches or blemishes) renders them poor substrates for incorporation of transfer images. This is in contrast to many lesser materials such as many plastics, where incorporation of transfer images is more routine—but where the material itself does not possess the durability or other desired properties of solid surface materials. The present invention provides the breakthrough that allows the previously resistant solid surface materials to have incredible flexibility to incorporate any desired image with bright, bold colors.

The solid surface industry has desired this ability for decades—but has never achieved it. For example, DuPont Corporation's web site for its CORIAN brand solid surface materials (the leader in the field), describes a history for the material that begins in 1968, with constant innovation. Yet even with a large multinational corporation behind it, CORIAN brand solid surface materials have had limited success with colors and no detectable commercial success

with transfer images. For example, with each new color development, DuPont produces a press release to show off the achievement. A 2003 press release entitled “DuPont Corian Introduces Six New Colors for 2003” heralds the expansion of the CORIAN color palette to “more than 110 colors.” Yet DuPont has failed to have commercial success with transfer image technology—a technology, that as shown by the present invention, allows for production of solid surface materials with a nearly infinite array of bright, bold colors, as well as designs (making a color palette of 110 color seem trivial). DuPont had attempted this technology decades ago (as described in U.S. Pat. No. 4,406,662), but has apparently abandoned and not commercialized the technology. This is not surprising, considering that, as shown in Example 1 of the present specification, the technology of U.S. Pat. No. 4,406,662 is inferior and does not produce the bright, bold images of the present invention. Thus, the technologies and materials provided by the present invention solve a problem that has been unaddressed by the solid surface industry for decades.

Applicant respectfully submits that because there is no teaching or suggestion of all of the claim limitations, the Examiner has failed to set forth a *prima facie* case of obviousness. As such, Applicant requests that the rejection be withdrawn.

### CONCLUSION

All grounds of rejection of the Office Action mailed June 13, 2003 have been addressed and reconsideration of the application is respectfully requested. It is respectfully submitted that Applicant's claims as amended should be passed into allowance. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicant encourages the Examiner to call the undersigned collect at 608.218.6900.

Dated: \_\_\_\_\_

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David A. Casimir  
Registration No. 42,395

Medlen & Carroll, LLP  
101 Howard Street, Suite 350  
San Francisco, California 94105